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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,582	04/12/2004	Gary A. Ross	11288.00	2646

26889 7590 09/30/2005

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EXAMINER

ELLIS, SUEZU Y

ART UNIT PAPER NUMBER

2878

DATE MAILED: 09/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/822,582	ROSS ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Suezu Ellis	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on August 6, 2004, March 31, 2005, August 1, 2005, August 8, 2005 and August 16, 2005 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 13-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 recites the limitation "the electronic selection of photodiode signals " in line 10. There is insufficient antecedent basis for this limitation in the claim. Further, it

is unclear as to what electronic selection and what photodiode signal applicant is referring to. . Please clarify.

Claim 16 recites the limitation "the long-lived rare earth fluorescent emissions " in line 3. There is insufficient antecedent basis for this limitation in the claim.

With respect to claim 17, claim language recites "detecting and comparing electronic signals from a photodiode signal". Is this electronic signal different than the detection of the emission? It is unclear as to what electronic signal applicant is referring to. Please clarify.

Claims not specifically addressed are indefinite due to their dependency.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 and 6-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Kaule et al. (US 4,451,521). Hereinafter, Kaule et al. will be referred to as Kaule.

With respect to claims 1-4 and 6-8, Kaule discloses testing security paper for authenticity wherein the security paper comprises a luminescence substance and the luminescence substance has a luminophore (a rare earth dopant of the lanthanide

group - thulium) and a carrier (synthetic resin with dyestuff) that incorporates the luminophore. Normally the luminophore shows a narrow band emission (pre-selected wavelength) at 480nm and 800nm, however in this case, the carrier is colored with a dyestuff wherein the emission at 480nm is suppressed so only emission at 800nm can be observed (col. 12, lines 4-7, 17-20). Kaule further discloses incorporating luminophores in printing inks, not just in the security paper itself (col. 6, lines 16-21).

Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Berger et al. (US 6,165,592). Hereinafter, Berger et al. will be referred to as Berger.

With respect to claims 1-4, Berger discloses optically detecting a marker for emitting light at a pre-selected wavelength (visible wavelength) wherein the marker comprises a rare earth dopant (a lanthanide) and a carrier (adhesive layer) that incorporates the dopant (col. 6, lines 58-67). Note Berger discloses the luminescent substances can be formed on the base of polymers or can be provided in the adhesive layer (col. 6, lines 41-44; col. 7, lines 5-8). The adhesive layer can be deemed functionally equivalent to a carrier and since adhesives are made of polymers, the carrier is made of a plastic.

Claims 1, 2 and 6-17 are rejected under 35 U.S.C. 102(a) as being anticipated by Jones et al. (WO 03/105075). Hereinafter, Jones et al. will be referred to as Jones.

With respect to claims 1, 2 and 6-8, Jones discloses determining the authenticity of documents or printing inks via a security marker that emits light at a pre-selected

wavelength wherein the marker (dye) has a luminescent composition which comprises a rare earth dopant (i.e. a lanthanide metal) and a carrier (application medium) (pg. 14, lines 16-21; pg. 15, lines 8-18). Note the pre-selected wavelength is dependent upon the choice of the rare earth dopant to be used. The fluorescent fingerprint in this case is the decay profile of the lanthanide chelates (pg. 12, lines 15-17). Depending on the application medium, the lifetime of the dopant can change thus changing the decay profile (pg. 19, line 27- pg. 20, line 1).

With respect to claim 9 and 11, Jones discloses combining two markers (dyes) with different pre-selected wavelengths and the markers have different decay times (pg 17, line 9-12, line 31 – pg. 18, line 2).

With respect to claims 10 and 12, Jones discloses varying the concentration of marker in order to vary the amplitude of the signal (intensity) (pg. 23, lines 16-24).

With respect to claims 13 and 17, Jones discloses a digital lifetime detector which identifies a security feature (i.e. marks) that are based on luminescent compounds. Note, the security feature has a carrier (i.e. application medium) which incorporates the rare earth chelates (i.e. europium). The system comprises excitation and emission optics that are tuned to the bands of luminescent compounds. The detector detects the emissions (i.e. peak emission at 615nm). Signal processing electronics integrate the signal from the detector and compared the observed luminescent lifetime to a known lifetime of the compound. As a result of the comparison, a visual or auditory signal is generated. (Fig. 7; pg. 37, line 21 – pg. 38, line 29).

With respect to claim 14, Jones further discloses using a light source having pulses of ultraviolet light and also a UV excitation filter to provide optimum matching of the compound's emission characteristics (pg. 38, lines 13-19).

With respect to claim 15, Jones discloses the system comprising an emission filter to pass emission wavelengths of the marks (Fig. 7; pg. 27, lines 3-6).

With respect to claim 16, Jones discloses the system wherein the signal processing electronics can comprise of a narrow band electrical filter (Fig. 7; pg. 27, lines 27- pg. 28, line 2)

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaule.

With respect to claim 5, Kaule addresses all the limitations of claim 1, however fails to expressly disclose the dopant and carrier material emit visible light in response to excitation by visible light. It would have been an obvious design choice to modify the marker so that it would emit visible light in response to excitation from visible light in order to perform a visual inspection of the item for authenticity via a common light source (i.e. normal lamp).

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaule in view of Barbera-Guillem (US 6,576,155).

With respect to claim 9, Kaule addresses all the limitations of claim 6, however fails to expressly disclose the item comprising a plurality of security markers where each marker emits at a different pre-selected wavelength. Barbera-Guillem and Kaule are directed to a similar field of endeavor of security marks. Barbera-Guillem discloses it is well known in the art for fluorescent inks to be developed for printing security marks on articles. Barbera-Guillem further discloses using at least one rare earth element as a dopant as part of the fluorescent ink's composition (col. 4, lines 60-65). Barbera-Guillem further discloses in Table 2, each dopant and color they fluoresce, wherein the fluoresced colors are deemed as being different pre-selected wavelengths. Barbera-Guillem further discloses it is also well known in the art to adjust the concentration of the dopants which changes the intensity of the emissions (col. 4, lines 29-40). It would have been obvious to include a plurality of markers with different concentrations of dopants in order to create a range of colors of emission to further ensure the validity of the item.

***Telephone/Fax Information***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Suez Ellis whose telephone number is 571-272-2868. The examiner can normally be reached on 8:30am-5pm (Monday-Friday).



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Stephons B. Allen  
Primary Examiner